

Regional Water Quality Control Board
Central Valley Region
Board Meeting – 2 August 2007
Response to Comments for Tehama County Sanitation District No. 1
Mineral Wastewater Treatment Plant
Tentative Waste Discharge Requirements

The following are responses to written comments received from interested parties in response to the Tentative Waste Discharge Requirements (NPDES No. CA0084069) for the Tehama County Sanitation District No. 1 (Discharger), Mineral Wastewater Treatment Facility (Facility) issued on 20 June 2007. Written comments from interested parties on the tentative Order were required to be received by the Regional Water Quality Control Board (Regional Water Board) by 20 July 2007 in order to receive full consideration. Comments were received by the due date from the following party:

1. California Sportfishing Protection Alliance (CSPA)

Written comments from the above interested party are summarized below, followed by the response of the Regional Water Board staff.

CALIFORNIA SPORTFISHING PROTECTION ALLIANCE (CSPA) COMMENTS

CSPA- COMMENT #1: The Regional Board is proposing to adopt the proposed Permit without knowledge of the quality of the wastewater discharge and the impacts to the beneficial uses of the surface water and groundwater. Federal Regulation, 40 CFR 122.4 (a), (d) and (g) require that no permit may be issued when the conditions of the permit do not provide for compliance with the applicable requirements. The proposed Permit is based on an incomplete RWD contrary to Federal Regulations 40 CFR 122.21 (e) and (h) and 124.3 (a)(2), 2 the SIP and the CWC section 13377 and cannot therefore be legally adopted. The proposed Permit also clearly states that there is no knowledge of whether the Discharger provides best practicable treatment and control (BPTC) of the discharge, which is required by State Water Resources Control Board Resolution No. 68-16 (Antidegradation Policy).

RESPONSE

The Discharger has submitted a complete permit application for their NPDES permit in compliance with all State and Federal requirements (Cal EPA Form 200, USEPA NPDES Form 1 and Form 2C). As stated in 40 CFR § 122.21(e)(1), "The Director shall not issue a permit before receiving a complete application for a permit except for NPDES general permits. An application for a permit is complete when the Director receives an application form and any supplemental information, which are completed to his or her satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity." The 40 CFR § 124.3(a)(2) states, "The Director shall not begin the processing of a permit until the applicant has fully complied with the application requirements for that permit. See §§270.10, 270.13 (RCRA), 144.31 (UIC), 40 CFR

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52.21 (PSD), and 122.21 (NPDES).” Accordingly, Regional Water Board staff has concluded a complete NPDES permit application was submitted by the Discharger.

The tentative Order requires the Discharger to conduct the following:

- a. Best Practicable Treatment or Control (BPTC) Evaluation Task.
- b. Pollutant Minimization Program.
- c. Investigation of Percolation/Evaporation Ponds.
- d. Salinity Evaluation and Minimization Plan.
- e. Priority Pollutant Sampling. The Discharger is required to take a total of four effluent and receiving water samples for the priority pollutants (including hardness, pH and temperature) during the first two years after adoption of the permit.

The tentative Order, in sections IV.D.4. a and b (Page F-21), demonstrate that the discharge, is consistent with the antidegradation provisions of 40 CFR 131.12, State Water Board Resolution 68-16, and State Water Board APU 90-004.

The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the Federal antidegradation policy (40 CFR 131.12) where the Federal policy applies under Federal law. Resolution 68-16 requires in part:

- 1) High quality waters be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies; and
- 2) Any activity, which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The proposed discharge will result in some minimal degradation of waters of the State and navigable waters of the United States, but in this case, such degradation is consistent with the maximum benefit to the people of the State. Limited degradation that does not cause exceedance of water quality objectives is warranted to allow for the economic benefit stemming from local growth. The Fact Sheet contains detailed information about each constituent of concern in the waste discharge and what changes in the discharge may occur for each constituent. The effluent concentrations for all constituents are based on water quality criteria and objectives and an increase in mass

for some constituents, if any, will be insignificant. The accommodation of the development justifies lowering of receiving water quality. In this case, however, the tentative Order would authorize, very minimal, if any lowering of receiving water quality given the level of treatment required by the Order. Consistent with the Federal and State antidegradation policies, the tentative Order would require the Discharger to meet requirements that will result in best practicable treatment or control. The tentative Order requires compliance with applicable Federal technology based standards plus more stringent water quality based effluent limitations.

The tentative Order requires advanced secondary treatment. It also requires the discharge to be disinfected when discharging to South Fork Battle Creek. During the last permit cycle (5 years) the Discharger only discharged to South Fork Battle Creek for one day (actually only a few hours) in December 2005. At the time of discharge the dilution in South Fork Battle Creek was approximately 131:1 (South Fork Battle Creek:effluent). During the last permit cycle, South Fork Battle Creek flow was measured on three days; the average dilution ratio was 160:1 (maximum of 354:1, minimum of 125:1). The tentative Order includes Discharge Prohibition III.B. that prohibits the discharge to South Fork Battle Creek when the flow is less than 35 cubic feet per second (cfs). At the 35 cfs flow, there is approximately 30:1 dilution (utilizing the facility design peak wet weather flow). This tentative Order does not grant any credit for dilution until an adequate mixing zone and dilution study is provided.

In the past, to collect effluent samples that were filtered, chlorinated and dechlorinated, the Facility had to discharge to surface waters. Since the Facility rarely discharges, previous priority pollutant samples were collected from the ponds and were not representative of the discharge to surface waters. Recent piping modifications to the Facility allow the Discharger to route treated wastewater through the entire treatment process without discharging to surface waters, so that representative effluent samples can be collected. Therefore, this tentative Order requires accelerated sampling for priority pollutants, even if no discharge occurs, so that accurate reasonable potential analyses can be performed for these pollutants. If the analyses determine there is reasonable potential to cause or contribute to in-stream exceedances of water quality standards, the permit will be reopened to establish necessary effluent limitations.

The requirements in the tentative Order to implement best practicable treatment or control will assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. Due to the high level of treatment required, the seasonal discharge prohibition, and the significant dilution available, the tentative Order will result in maintenance of existing in-stream uses. In performing the “reasonable potential” analysis, the Regional Water Board considered the discharge’s effects on water quality on a pollutant-by-pollutant basis. The tentative Order includes that analysis.

Discharge Prohibition III.C of the tentative Order prohibits the wastewater treatment and discharge from causing a nuisance as defined by the California Water Code.

State Board APU 90-004 states that,

“A Regional Board may determine that it is not necessary to do a complete antidegradation analysis. The Regional Board may reach this determination if, using its best professional judgment and all available pertinent information, the Regional Board decides that the discharge will not be adverse to the intent and purpose of the State and Federal antidegradation policies.

Based on information available to the Regional Board and any other background material the Regional Board believes is necessary, a complete antidegradation analysis will not be required if:...

- 3. A Regional Board determines the proposed action will produce minor effects which will not result in a significant reduction of water quality;... “*

The Discharger has only discharged for a few hours during the last permit cycle (5 years) when the dilution was 131:1 (South Fork Battle Creek:effluent). The discharge is only treated domestic wastewater (no industrial contributions). The tentative Order does not increase flow, pollutant mass loading or concentration above limitations in the current permit. This discharge produces only minor effects, which will not result in a significant reduction of water quality. Based on best professional judgment and all available pertinent information, Regional Water Board staff has determined that a complete antidegradation analysis is not required.

CSPA- COMMENT #2: The proposed Permit does not contain an Effluent Limitation for ammonia in violation of Federal Regulations 40 CFR 122.44 and California Water Code, Section 13377.

RESPONSE

The tentative Order prohibits discharge from April 16 to November 14 (and during periods where there is less than 35 cfs in South Fork Battle Creek). Ammonia toxicity to early life stage salmonids, as well as to other aquatic species, is dependant upon water temperature and pH; toxicity increases as pH or temperature increase. At the highest measured pH (7.24 s.u.) in South Fork Battle Creek near the discharge point and the highest measured temperature (50.2 degrees F or 10.1 degrees C) in the receiving water during this last five years, the water quality objective for ammonia is 5.39 mg/L (criterion continuous concentration 30 day average), and the criterion maximum concentration is 19.7 mg/L.

The tentative Order does not contain effluent limitations for ammonia because they are not required or appropriate. The 40 CFR 122.44(d) requires effluent limitations to be

established for pollutants that cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality (reasonable potential). This tentative Order requires the Discharger to sample the ammonia in the effluent/receiving water on a monthly basis. Based on the results this sampling, an analysis will be performed to determine if there is a reasonable potential to violate a water quality objective for ammonia. If there is a reasonable potential, the Order will be reopened, and appropriate effluent limitations will be established.

CSPA- COMMENT #3: The proposed Permit contains an Effluent Limitation for acute toxicity that allows mortality that exceeds the Basin Plan water quality objective and does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i).

RESPONSE

The acute toxicity effluent limitations contained in the tentative Order comply with Federal regulations. The limitations meet the Basin Plan water quality objective, and are consistent with numerous NPDES permits issued by the Regional Water Board and throughout the state, and are appropriate. The tentative Order, as a whole, contains several mechanisms designed to ensure that the discharge does not cause toxicity in the receiving water. The tentative Order contains a receiving water limitation that prohibits the discharge from causing toxicity in the receiving water. Additionally, effluent limitations are included for all toxic pollutants with reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Where appropriate, these limitations are developed based on aquatic life toxicity criteria.

In addition to chemical-specific effluent limitations, the tentative Order requires whole effluent toxicity (WET) testing that identifies both acute and chronic effluent toxicity. WET testing is necessary because chemical-specific effluent limitations do not address synergistic effects that may occur when the effluent mixes with receiving waters, synergistic effects of mixtures of chemicals, or toxicity from toxic pollutants for which there are no aquatic life toxicity criteria. To address toxicity detected in WET testing, the tentative Order includes a provision that requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity. If the discharge exhibits a pattern of toxicity, the Discharger is required to initiate a Toxicity Reduction Evaluation and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity.

The acute toxicity effluent limitations establish additional thresholds to control toxicity in the effluent: survival in one test no less than 70% and a median of no less than 90% survival in three consecutive tests. Some in-test mortality can occur by chance. To account for this, the test acceptability criteria for the acute test allow ten percent mortality (requires 90% survival) in the control. Thus, the acute toxicity effluent

limitation allows for some test variability, but imposes ceilings for exceptional events (i.e. 30% mortality or more), and for repeat events (i.e., median of three events exceeding mortality of 10%).

CSPA- COMMENT #4: The proposed Permit does not contain Effluent Limitations for chronic toxicity and therefore does not comply with Federal regulations, at 40 CFR 122.44 (d)(1)(i) and the SIP.

RESPONSE

The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region¹ that contained numeric chronic toxicity effluent limitations. As a result of this petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012:

“In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.”

The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limitations in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. The tentative Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

CSPA- COMMENT #5: The proposed Permit does not comply with the Board's Antidegradation Policy by failing to contain limitations that are protective of groundwater quality and require groundwater monitoring in accordance with CWC Section 13377.

¹ In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

RESPONSE

See Response to Comment #1 (regarding antidegradation issues). A minimum of four feet of generally silty clay/clayey silt soil underlay the treatment ponds, based on soil investigations. The tentative Order requires the Discharger to conduct an investigation to determine the existing condition of the underlying soils beneath the percolation/evaporation ponds. This investigation will be utilized to determine if there is a potential for the effluent to impact the groundwater beneath the percolation/evaporation ponds. Based on the results of the investigation, there maybe a need for modifications to the Facility (i.e. including but not limited to construction of liners, plant upgrades/retrofits) that will be required to achieve BPTC. Additionally, a groundwater monitoring program maybe required, based on the results of the investigation.

CSPA- COMMENT #6: The proposed Permit fails to contain mass based effluent limitations contrary to Federal Regulations.

RESPONSE

The tentative Order does include mass based effluent limitations, as appropriate. Federal regulations at 40 CFR 122.45(f)(1) and (2), states the following regarding effluent limitations for publicly owned treatment works:

- “(1) All pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of mass **except** (emphasis added):*
- (i) For pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass;*
 - (ii) When applicable standards and limitations are expressed in terms of other units of measurement; or*
 - (iii) If in establishing permit limitations on a case-by-case basis under § 125.3, limitations expressed in terms of mass are infeasible because the mass of the pollutant discharged cannot be related to a measure of operation (for example, discharges of TSS from certain mining operations), and permit conditions ensure that dilution will not be used as a substitute for treatment.*
- (2) Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”*

The tentative Order includes effluent limitations expressed in terms of both mass and concentration for some constituents. Pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.